Structural Test High Bay Facility

Purpose:

To provides laboratory space, test cells, and utility support for structural and dynamic test activities.

Three high bay structures comprise this facility: the Central High Bay, the East High Bay, and the West High Bay. Utilities provided include gaseous nitrogen up to 5,000 pounds per quare inch gauge (psig), missile grade air up to 3,500 psig, shop air up to 100 psig, and electric power up to 480 VAC (3 phase). The Central High Bay is a 169 x 161 x 155 ft load reaction facility with an access door 60 x 75 ft and a massive 55 x 55 ft concrete test floor below a moveable load reaction crosshead, adjustable in height (5 1/2-in increments) from 40 to 115 ft. The concrete floor varies in thickness from 5 1/2 to 26 ft and is equipped with 2,356 ASTM A-354 steel and 2 3/4-in tie downs on 18-in centers. The tie-downs are rated at 110,000 lbsf in tension or compression and 20,000 lbsf. in shear loading. Massive walk platforms spanning the two north towers at intervals of 20 ft are designed to react shear loads. Loads of 30,000,000 pounds force (lbsf) vertically and 2,400,000 lbsf laterally can be reacted in the facility. Two overhead bridge cranes, each with dual independent trolley hooks rated at 15,000 lb, are available for test article handling. The East High Bay is a 95 x 203 x 97 ft high bay area with an access door 40 x 40 ft and a massive concrete test floor 70 x 160 x 10 ft thick. Reaction load plates, 400,000 lbsf tension and 45,000 lbsf shear per plate, are symmetrically affixed on 10 ft centers to the test floor. Two overhead bridge cranes, each with dual independent trolley hooks rated at 20,000 lbs and 5,000 lbs and a maximum hook height of 80 ft, are available for test article handling. The West High Bay provides laboratory space for dynamic test operations and other functions remote to structural and dynamic test activities. Vibration and transient shock test cells are located adjacent to the high bay. Structural testing is performed at ambient and non-ambient environmental conditions including elevated and cryogenic temperatures.

Point-of-Contact:

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